

EECO

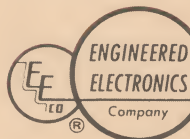
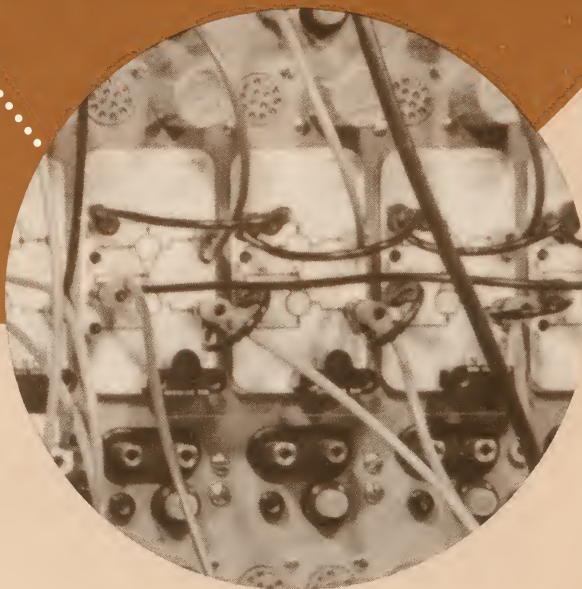
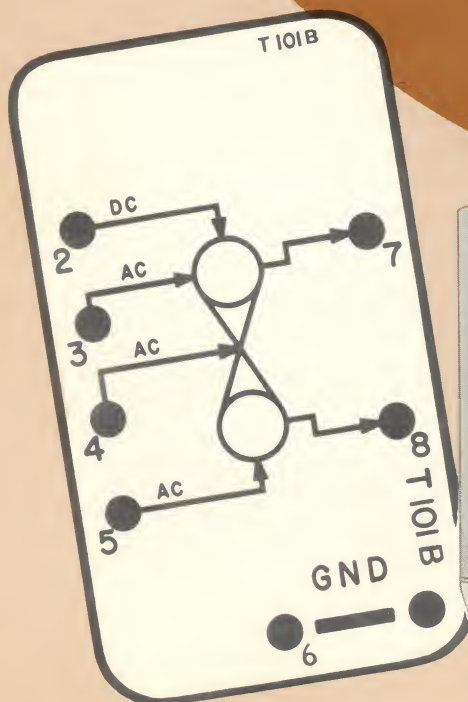
T-SERIES DIGITAL SYSTEM BREADBOARD EQUIPMENT

FEATURES

- Completely transistorized.
- Permits rapid formulation of digital electrical systems.
- Saves engineering time and effort.
- No waste of breadboard materials — no soldering.
- System may be operated slowly to permit inspection of its mode of operation, or over-speed to indicate system derating.
- Operation may be analyzed with a minimum of test equipment.
- Provides a means for rapidly building and testing alternate ways of formulating a system.
- Minimizes wiring errors and the inclusion of defective parts.
- Uses standard catalogued plug-in circuits.
- Choice of rack-mounted or portable types.
- Unique circuit symbol cards provide a means for rapidly visualizing the system, and facilitate drawing a circuit diagram.
- Circuit cards enable the designer to determine the elements involved, as well as the cost of the system.
- Breadboard can be built up in stages to any degree of complexity.

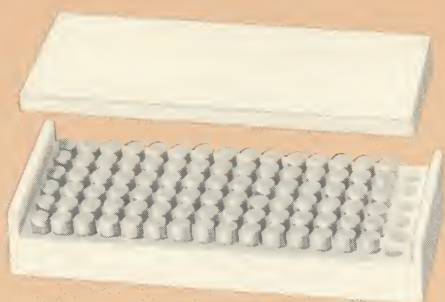
Plastic circuit cards, showing circuit symbols, input and output connections, power connections, part number, application notes, etc., fit on the panel below sockets for the plug-in units. They expose the proper pattern of banana jacks that are permanently wired to pins on the sockets. Signal connections are made by patching card-to-card in the circuit line-up being tried.

Systems operation may be analyzed with a minimum of test equipment.



ENGINEERED ELECTRONICS COMPANY

1441 East Chestnut Avenue • Santa Ana, California

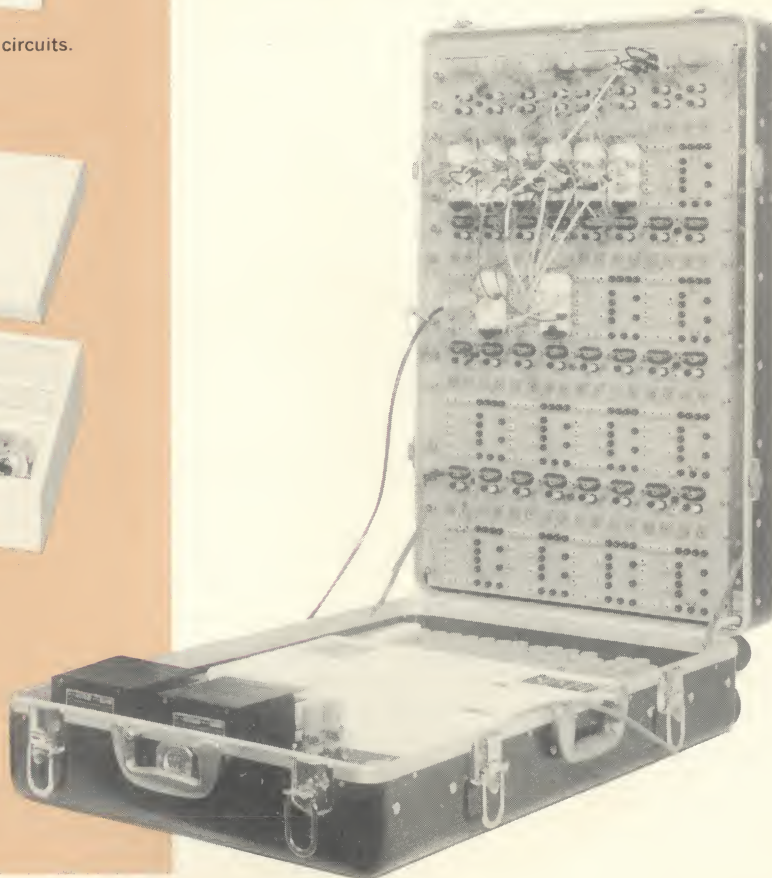


Container for storing up to 96 T-Series circuits.

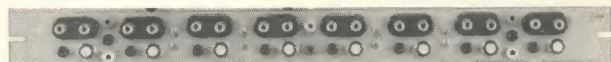


Partitioned container for storing circuit cards, patch cords, power and component plugs, etc.

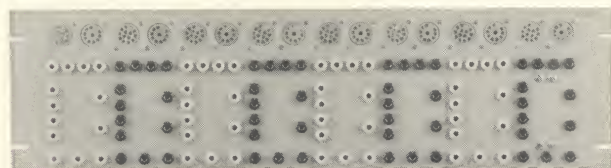
EECO Portable Breadboard, Z-97221, complete with all permanent wiring and power cabling, ready to plug in. Bottom section of breadboard suitcase is compactly laid out to store all necessary T-Series circuit modules, circuit cards, patch cords, and compatible power supplies. Storage containers are available separately for use with rack-mounted models.



..... **T-915 and T-917 — Indicator Panel**, 1 $\frac{3}{4}$ " x 19", with 16 Minisig indicators and banana jacks for input signals. T-915 uses R-101 (neon) indicators; T-917 uses R-341 (filament) indicators. Both types of indicators light when input signal is -3 volts. Panel is amateur notched and finished in gray enamel.



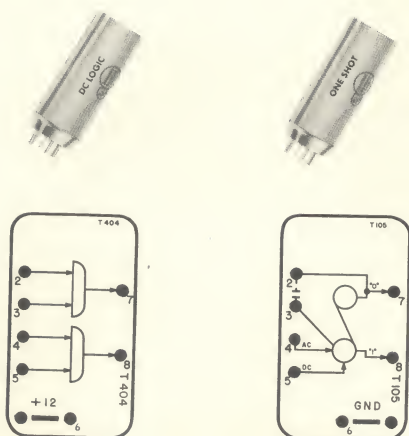
..... **T-916, T-918, and T-958 — Indicator and Tie Point Panel**, 1 $\frac{3}{4}$ " x 19", with 8 Minisig indicators, plus 8 dual binding posts for external parts, such as resistors, diodes, capacitors, etc. Indicators light when input signal is -3 volts. T-916 uses R-101 (neon) indicators; T-918 and T-958 accommodate R-341 and R-342 (filament) indicators, respectively. Since the R-341 Minisig indicator draws its power mainly from -12 volts and the R-342 from +12 volts, the use of panels T-918 and T-958 in combination is recommended as a means of balancing power supply requirements.



..... **T-927 System Development Panel**, 5 $\frac{1}{4}$ " x 19", with eight 9-pin and eight 13-pin sockets. Panel will accept up to eight circuits at one time.

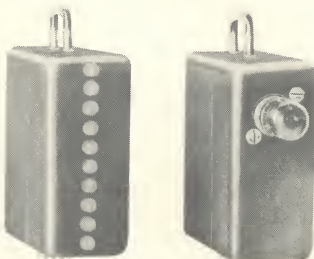


..... **T-957, Signal Generator Panel.**



T-Series Germanium transistorized circuit modules are uniformly 9-pin or 13-pin, depending on specific circuit requirements. Any of the wide selection of T-Series units with pin 1 used for -12 volts, whether 9-pin, 13-pin, or special units, can be used on the breadboard panels.

Plastic circuit symbol cards, corresponding to specific T-Series circuit modules, are imprinted with circuit symbol, showing input and output connections, power connections, part number, application notes, etc. They facilitate patching circuit interconnections, visualizing the system, drawing a circuit diagram, and determining the cost of the system. Circuit cards are available as T-919/XXX, with appropriate circuit number used in place of "XXX".

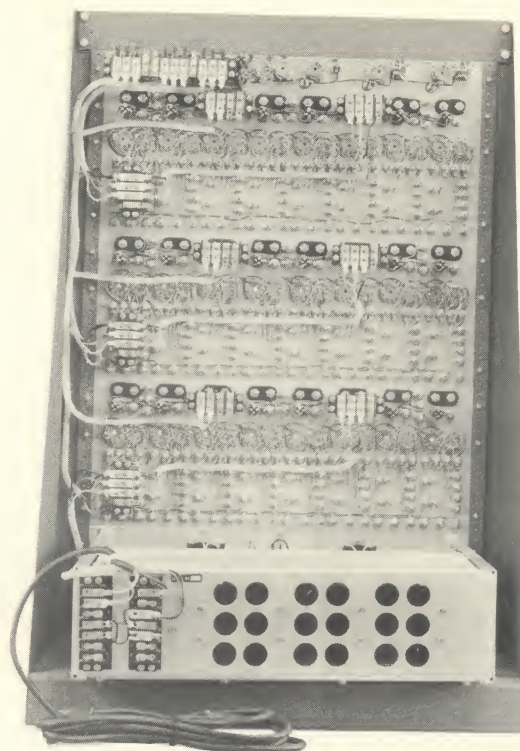


N-Series transistorized decades are miniaturized plug-in units featuring high operating speed, simple power-supply requirements (typically -12 volts only), low power consumption, and reserve reliability. Standard conservative counting rates are 0-250 kcs and 0-5 megacycles. Available in a wide range of indicating, non-indicating, and presettable models, these decade counters are completely compatible with EECO T-Series Germanium circuits, and R-Series Minisig indicators, and may be intermixed as required to build up systems. Brackets, equipped with socket on base wired to header on vertical member, are used to adapt N-Series decades for mounting on vertical panel of T-Series Breadboard.

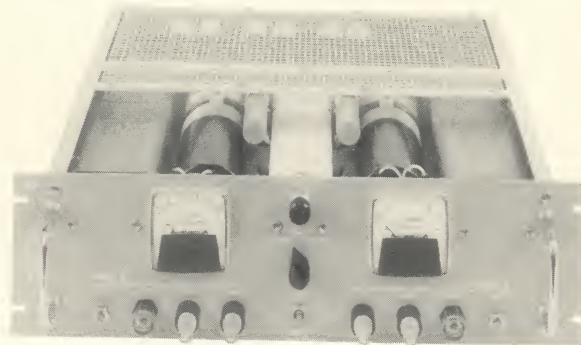
Patch Cords, H-106 through H-120, are available in 8", 12", and 18" lengths, and in black, red, blue, green, and yellow to facilitate circuit interconnection identification. Black patch cords are also available in 4" length as H-101.

Power Plugs, T-920, are black, dual-banana plugs with shorting bar between pins. They are used with T-927 panels and T-919/XXX circuit symbol cards.

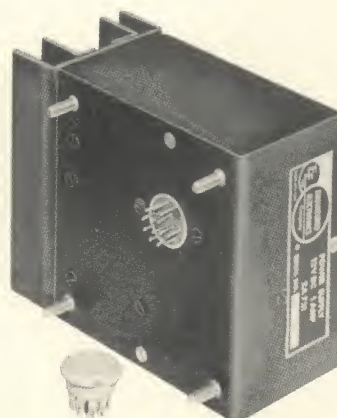
Component plugs are available in red (T-928), yellow (T-929), and blue (T-930). They are similar to the T-920 Power Plug, but without shorting bar, and are used with T-916, T-918, and T-958 panels. Component Plugs hold resistor, capacitor, or diode, and plug into dual binding post.



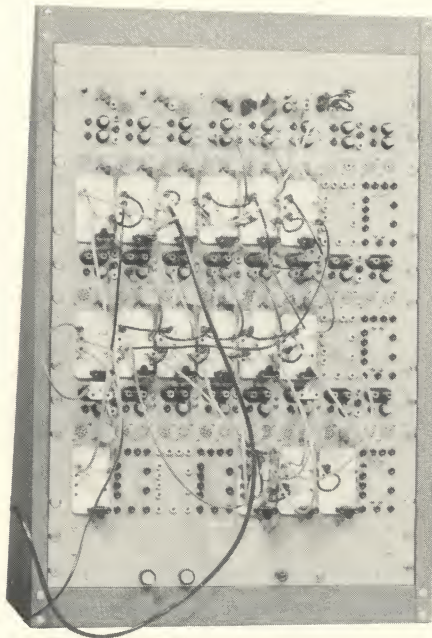
Rear view of typical rack-mounted EECO T-Series Breadboard, showing permanent wiring and power cabling. The ZA-720 Dual 12-volt, 5-amp Regulated Power Supply is used as the power source for this assembly.



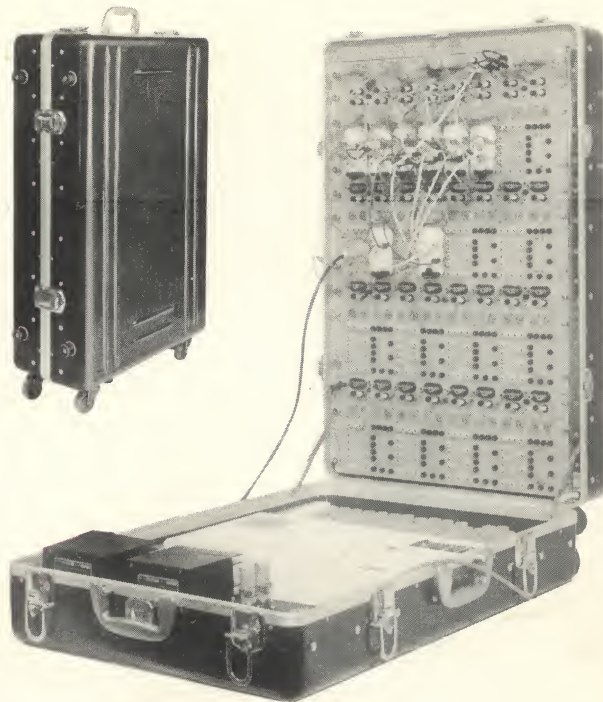
ZA-720 Dual 12-volt DC, 5-amp Regulated Power Supply. Front panel contains voltage and current meters, as well as switching for monitoring the two power supplies independently. Completely transistorized unit is convection cooled.



This 12-volt DC, 1-amp Regulated Power Supply (ZA-721) plugs into a modified 14-pin miniature tube socket. Seated height is identical with that of T-Series circuit modules (2-3/16"). Completely transistorized unit is convection cooled.



Breadboards of any degree of complexity can be built up in stages, according to the specific panels and number of circuits incorporated. Typical rack-mounted breadboard illustrated here uses two ZA-721 plug-in 12-volt, 1-amp Regulated Power Supplies mounted behind the T-938 Power Panel.

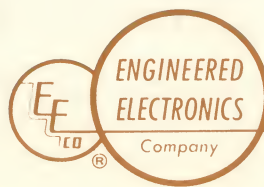
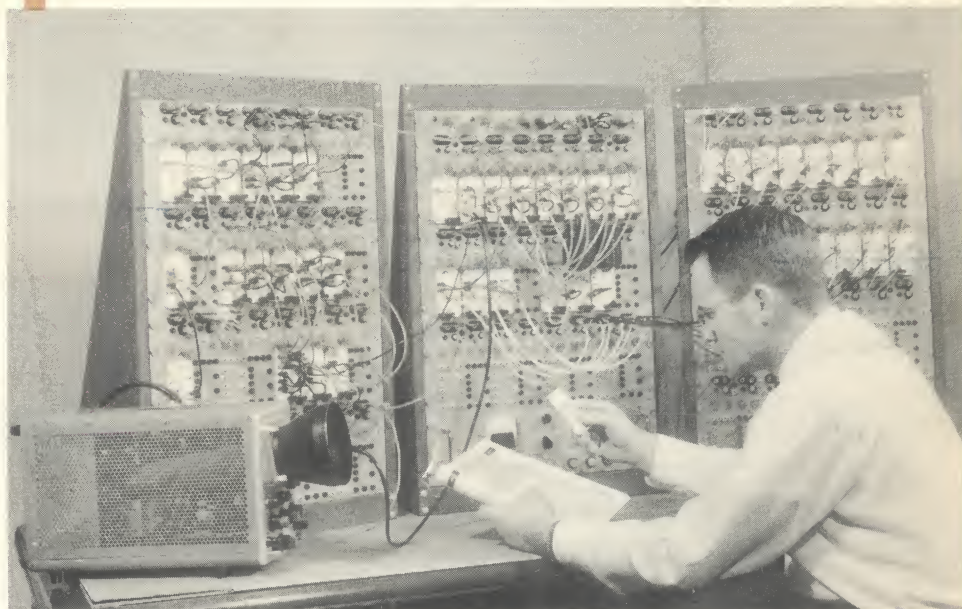


EECO Portable Breadboard, Z-97221, offers the advantage of portability, with power supplies, T-Series circuit modules, circuit symbol cards, patch cords, power and component plugs, etc., always available in one integrated package along with the breadboard itself. Suitable for use at a desk, in the laboratory, or in the field. Complete unit can be locked and stored when not in use.

Compatible interconnections between rack-mounted or portable T-Series Breadboards permit expansion of the equipment into a complete systems development console. Power source for the three-rack console shown here is the EECO ZA-720 Dual 12-volt, 5-amp Regulated Power Supply (bottom panel of center rack). This typical three-rack combination will accommodate up to 88 plug-in circuits in addition to Minisig sensitive indicators and circuits in Signal Generator Panel.

Price information on EECO T-Series Breadboard equipment can be found in the price lists at the end of EECO Catalog No. 859. Price sheets are color-coded as follows:

- T-Series Pink
- N-Series Green
- R-Series Orange
- Items prefixed with ZA- or H- are covered under "General Hardware and Accessory Price List Brown



ENGINEERED
ELECTRONICS

Company

ENGINEERED ELECTRONICS COMPANY

1441 East Chestnut Avenue • Santa Ana, California